IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: R. Mark Halligan   Art Unit: 3623

Serial No.:   10/701,889

Filed: November 5, 2003

For: METHOD AND APPARATUS FOR THE DISCOVERY
              OF TRADE SECRETS INCLUDING THE COLLECTION,
              COMPILATION, CORRELATION, INTEGRATION,
              CATEGORIZATION, AND REPORTING OF DATA
              ABOUT TRADE SECRETS

Examiner: Boyce, A.

Attorney
Docket No.:   90742

SUPPLEMENTAL REPLY BRIEF UNDER 37 CFR §41.41

Mail Stop: Appeal Brief
Commissioner for Patents
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Sir:

       In reply to the Supplemental Examiner's Answer of April 10, 2008, applicant responds as

follows:

       In its reversal and remand dated December 13, 2007 of Examiner's rejection of the subject

application, the Board of Patent Appeals and Interferences rejected Examiner's finding that

"clustering of documents" in Jacobsen was equivalent to the Applicant's "elimination of

redundancy". The Board suggested that Examiner determine whether prior art existed for the

elimination of redundancy carried out by Applicant's invention: "Further, we suggest that the

Examiner determine, if he has not done so already, whether any such prior art systems that eliminate redundancies in databases operate without the requirement of a unique identifier."

In his Appeal Brief, Examiner has cited U.S. Pat. Appl. No. US 2003/0046280 to Rotter et al. (Rotter) as an example of prior art that eliminates redundancies in databases without the requirement of a unique identifier. Indeed, in an argument dated September 1, 2004 in response to a non-final rejection based on Mikurak (6,606,744), Rotter argues that her invention is distinguished from Mikurak by not requiring a unique identifier to associate records, and that the records are merged to eliminate redundancy. Letters Patent were subsequently issued to Rotter (6,912,549). Examiner therefore rejects the current application for obviousness under 35 USC §103(a).

The matter before this Board is whether Applicant's invention is obvious under U.S. Pat. Appl. No. US 2003/0158745 to Katz et al. (Katz) in view of Rotter or Katz in view of Rotter and U.S. Pat. No. 6,167,397 to Jacobson et al. (Jacobson). To this end, a somewhat more detailed analysis is necessary than that applied in considering the previous rejections. In this brief, Applicant argues that Applicant's invention, and in particular its method and apparatus of eliminating redundancy, is not obvious under Katz and Rotter or Katz, Rotter and Jacobson, and further is distinguished from Katz and Rotter or Katz, Rotter and Jacobson so as to constitute a different invention, and that this difference is reflected in the claims language.

Applicant specifically argues that its invention of claims 1 and 27 is not obvious under Katz in view of Rotter for the following reasons:

1) Nothing close to Applicant's claimed method and apparatus of eliminating redundancy is disclosed by Rotter;

2) Applicant's method and apparatus of eliminating redundancy include structuring the

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database record to facilitate eliminating redundancy, while Rotter is designed to operate on existing databases;

3) Rotter's method of eliminating redundancy includes matching database records that each refer to an "entity", which by definition does not include trade secrets;

4) Rotter's method of eliminating redundancy includes matching database records based on a "likelihood", which is not an aspect of Applicant's invention;

5) Rotter's method of eliminating redundancy is based upon the weighting of data entries within database records being matched, while Applicant's method and apparatus do not use weighting;

6) Applicant's method and apparatus seek to "define" the potential trade secret through its operation, while Rotter's "entity" is pre-existing and distinct and

7) Applicant's invention is directed to trade secrets, while Rotter's method is inapplicable to trade secrets.

With regard to the first argument, Applicant's claimed method and apparatus of identifying and eliminating redundancy are disclosed in detail in the Specification (bottom of page 21 to the middle of page 26). Rotter does not disclose any method or apparatus similar to Applicant's claimed method and apparatus. In particular, while Rotter refers to a "sophisticated matching algorithm (SMA)" in the Specification, nowhere in the Specification or the Diagrams is this matching algorithm (on which Rotter's invention depends) described in detail. (Rotter Specification, bottom of page 4 to top of page 5) How are the weighting values determined? How is the likelihood that both records relate to the same entity calculated? Rotter fails to teach her method even through an illustrative example of a preferred embodiment. Absent such disclosure, Rotter's algorithm is

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ineffective in rendering Applicant's claimed invention obvious.

Rotter's invention may render obvious that a means of eliminating redundancy without dependence on a unique identifier is useful, but it does not render obvious Applicant's claimed method and apparatus of eliminating redundancy in a trade secret database. Indeed, it is questionable whether Rotter's minimal Specification is sufficiently enabling to render even Rotter's method non-obvious. Without further disclosure of the "sophisticated matching algorithm", Rotter is more a statement of desirability for a method or apparatus of eliminating redundancy without unique identifiers than it is a statement of how to perform such a task.

Put another way, if Rotter's invention is patentable without a full disclosure of the "sophisticated matching algorithm" because it is a unique, non-obvious and useful method independent of the algorithm used (i.e., if the comparison and merging of records is patentable using any algorithm whatsoever) then Rotter cannot render obvious Applicant's claimed invention, for which the specifically claimed details of Applicant's algorithm are required to achieve the useful result.

Because Rotter does not disclose or teach any method or apparatus for elimination of redundancy similar to Applicant's method and apparatus, Applicant's method and apparatus of claims 1 and 27 is not rendered obvious under Katz in view of Rotter.

With regard to the second argument, in developing a "Method And Apparatus For The Discovery Of Trade Secrets, Including The Collection, Compilation, Correlation, Integration, Categorization And Reporting Of Data About Trade Secrets", Applicant has determined that, in order to generate the best possible definition of the potential trade secrets, the data should be structured with data entry fields and collected sets of descriptive information designed to facilitate

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the elimination of redundancy. This structuring of the data collection is discussed in detail in the Specification (bottom of page 17 to bottom of page 21).

Rotter's method of eliminating redundancy operates on existing databases. This is clear from the very first paragraph of Rotter's Background of the Invention wherein "Multiple records incorporating at least a portion of duplicated content are commonly generated in various organizations and enterprises. ... Once created the redundant record information may result in further propagation of errors and mistakes and represents an additional storage and overhead burden unless the duplicate records are consolidated into a single record containing pertinent required information" (Rotter Specification, page 2). Accordingly, the discussion of the first figure in Rotter begins with the database already in existence: "Figure 1 shows an overview of an adaptive process used by a system for identifying and consolidating multiple records" (Rotter Specification, page 3). Nowhere does Rotter teach collecting structured information as a means of facilitating the elimination of redundancy.

While Katz teaches the collection of structured data about innovations, which may include trade secrets, Katz does not anticipate the elimination of redundancy and therefore does not teach Applicant's method and apparatus of structuring the data collection to facilitate the elimination of redundancy in defining information about trade secrets.

The combination of Katz' method of collecting data about innovations combined with Rotter's method of eliminating redundancy in existing databases do not render obvious Applicant's method and apparatus of first collecting data that has been structured in a specific way and then eliminating redundancy through the use of an algorithm that depends on that data structure.

Because Katz and Rotter do not either separately or together disclose or teach any method or

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apparatus for structuring the collection of data to facilitate the elimination of redundancy similar to Applicant's method and apparatus, Applicant's method and apparatus is not rendered obvious under Katz in view of Rotter.

With regard to the third argument, while the Rotter invention uses patient healthcare records as an exemplar application, non-patient healthcare applications are also specifically addressed: "In alternative, non-healthcare embodiments, the functions of the Figure 1 process are used in identifying multiple records associated with an entity other than a particular patient. Such an entity may comprise a company, an organization, a group of people, a manufactured item, a record, service or resource, for example." (Rotter Specification, top of page 5)

The "entity" language appears throughout the Specification when "patient" is not used, as in the discussion of the elimination of the discovered redundancies through the consolidation of records: "Figure 3 shows a flowchart of a process employed by application 200 (Figure 2) for consolidating multiple records that are associated with a single entity and are stored in at least one record repository" (Rotter Specification, middle of page 7). The claims are also written to the processing of data records that each refer to an entity.

The dictionary definition of "entity" is illuminating here: "something that has separate and distinct existence and objective or conceptual reality" (Merriam-Webster); "Something that exists as a particular and discrete unit" (American Heritage).

Contrast this definition with Applicant's discussion of trade secrets in the teaching of the Applicant's method and apparatus: "This mechanism is effective because trade secrets are not unitary or indivisible. When one considers the classic trade secret — the formula for Coca-Cola – it is actually a collection of trade secrets. The presence of each ingredient in the formula is itself a

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trade secret. The amount of each ingredient in the formula is itself a trade secret. The individual processes used to combine and cook the ingredients and the intermediate steps are themselves trade secrets. The entire collection – the presence of each ingredient, the amount of each ingredient, and the individual processes used to combine and cook them – is also a trade secret, called the formula for Coca-Cola." (Specification, page 24).

The elimination of redundancy in a database whose records relate to potential trade secret information -- unstructured, overlapping, divisible -- is a far different problem than the elimination of redundancy in a database whose records each relate to a specific entity -- separate and distinct, particular and discrete. Rotter teaches the latter, but Rotter's method has no application to the former. Applicant's method and apparatus was invented specifically to provide the elimination of redundancy where the underlying referents of the records are ill-defined. Rotter's method was invented to provide the elimination of redundancy where the underlying referent is well-defined.

The methods required to provide the utility desired are different because the properties of the underlying referents are different. Rotter can rely on the separate, distinct existence of the entity to which the Rotter database records refer, where Applicant takes advantage of the unstructured, overlapping and divisible nature of the aggregation of trade secret information to which Applicant's database refers.

Because Katz and Rotter do not either separately or together disclose or teach any method or apparatus for eliminating redundancy in a database referring to ill-defined referents similar to Applicant's method and apparatus, Applicant's method and apparatus of claims 1 and 27 is not rendered obvious under Katz in view of Rotter.

With regard to the fourth argument, a consequence of the well-defined entities that are the

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referents of the Rotter databases is that Rotter must deal in probabilities or likelihoods. Rotter is comparing database records to each other in order to determine the likelihood that both records relate to the same distinct and separate referent. Since both the database records and the underlying referent are well-defined, and no human process, whether manual or automated, is perfect, Rotter must determine the probability or likelihood that two given records relate to the same underlying entity. To that end, Rotter uses "probabilistic logic" (Rotter Specification, bottom of page 4 and elsewhere) to determine this likelihood. The terms "probabilistic", "probability" and "likelihood" appear throughout Rotter, from the first paragraph of the Summary of Invention (Specification, page 2) into the claims.

This probabilistic approach is why Rotter's method includes multiple steps in which a human operator can become involved in making a judgment call as to whether the records are in fact redundant prior to merging the records (Rotter Specification, page 8 for example).

In contrast, the ill-defined referents of Applicant's database allow Applicant to forego probabilistic methods for a deterministic approach. The terms "probabilistic" and "probability" do not appear in Applicant's Specification at all, and "likelihood" occurs once, in a different context. (Specification, page 3) No probabilistic methods, steps, logic or processing are considered or taught in Applicant's method and apparatus.

Further, due to the deterministic approach of Applicant's method and apparatus, Applicant does not include any method step or apparatus component in which a human operator can become involved in making a judgment call as to whether the records are in fact redundant prior to merging the records. This further illustrates the difference between Rotter's method and Applicant's invention.

Because Katz and Rotter do not either separately or together disclose or teach any deterministic method or apparatus for the elimination of redundancy similar to Applicant's method and apparatus, Applicant's method and apparatus of claims 1 and 27 is not rendered obvious under Katz in view of Rotter.

With regard to the fifth argument, as a part of its probabilistic logic, Rotter teaches a method of matching database records, in order to determine redundancy, that depends on weighting applied to the data entries composing the database records being compared (Rotter Specification, top of page 5 and bottom of page 7). Applicant's method and apparatus do not use weighting of the data entries in matching database records in order to determine redundancy. Indeed, the words "weight" and "weighting" do not appear in Applicant's Specification at all.

Because Katz and Rotter do not either separately or together disclose or teach any method or apparatus for the elimination of redundancy (without using weighting of data entries within the database records being matched) similar to Applicant's method and apparatus, Applicant's method and apparatus of claims 1 and 27 is not rendered obvious under Katz in view of Rotter.

With regard to the sixth argument, a further consequence of the well-defined entities that are the referents of the Rotter database records is that Rotter is not in a position and does not need to impose any definition or structure on the underlying referents. The patients and other entities to which the Rotter method applies are already well-defined: the patient is "John Doe", a human being, with a defined existence prior to and separate from the database of Rotter.

In contrast, Applicant's invention has the intention of imposing definition and structure on an amorphous and unstructured collection of information collectively known as trade secrets. As Applicant notes in the Specification (page 24), "trade secrets are not unitary or indivisible", and that

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is why "[t]his mechanism [Applicant's method and apparatus] works". The lack of structure and definition of the collection of potential trade secret information within typical companies does not allow customary methods of inventory and record-keeping that depend upon well-defined referents, such as the method of the Rotter patent. This is the primary utility of Applicant's method and apparatus, to provide a mechanism for inventorying trade secrets that provides the structure and definition that is required but which is lacking without Applicant's method and apparatus.

Because Katz and Rotter do not either separately or together disclose or teach any method or apparatus to provide definition and structure to the underlying referents of the database records similar to Applicant's method and apparatus of claims 1 and 27, Applicant's method and apparatus is not rendered obvious under Katz in view of Rotter.

Moreover, the prior art has failed to recognize the problem represented by an amorphous and unstructured collection of information that together represents one or more trade secrets. The problem has not been recognized because until the trade secret has been defined, there is no tangible, protectable interest. Until there is a tangible, protectable interest, there has previously not been a reason for an organization to expend resources to attempt to define a trade secret. Since there is no recognition of this problem, there would be no reason to combine references to arrive at the claimed invention.

An example will illustrate points 3, 4, 5, 6, and 7. Consider an extended family of trade secrets related to the manufacturing process for carbonated beverages. This family of trade secrets includes the ingredients in each of the sodas, cola, lemon-lime, cherry, grape, and orange; the mixing and cooking process of the ingredients for each of the sodas, and the bottling process for each of the sodas.

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This field of information can be divided into trade secrets in many ways. It can be divided by product: "manufacturing process for cola soda", "manufacturing process for lemon-lime soda", etc. It can be divided by step in the process: "ingredients for sodas", "mixing methods for sodas", "cooking methods for sodas", "bottling methods for sodas."

It can also be further subdivided. For example, "ingredients for sodas" can be subdivided into "ingredients for cola soda", "ingredients for lemon-lime soda", and so on. These subdivisions may be further subdivided into the specific ingredients, and subdivided yet again into information regarding the chemical formula of each ingredient, the amount used, the vendor the ingredient is purchased from, and the amount paid for the ingredient.

Any subdivision of the field of information "manufacturing process for carbonated beverages" may qualify as a trade secret under law, and be treated as a single trade secret for security, litigation, or licensing purposes. One can license the chemical formula of the flavoring for cherry soda, for instance, yet not license or reveal the amount of the ingredient used in one's own products, the manner in which it is mixed with the other ingredients, the vendor from whom it is purchased, or the price paid.

The important point is that the manner in which one subdivides the trade secret described as the "manufacturing process for carbonated beverages" into groups and subgroups of information does not affect the legal status of these groups and subgroups as also being trade secrets. It is for the purpose of inventorying the amorphous cloud of information known as the "manufacturing process for carbonated beverages", for giving it shape and definition, that one performs one or more subdivisions into groups, sub-groups and so on. This subdivision allows better and easier application of security procedures, and the classification, licensing and litigation of portions of the

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information.

One can define a "Manufacturing Process for Cola Soda that is described by the keywords Ingredient, Caramel, and Proportion" as a subset of the total information inventoried, and such subset of information can be treated as a trade secret under law.

Consider now an extended family of medical patients, the exemplar application of the Rotter patent: grandparents John and Jane Doe, their three sons, John, Matthew, and Michael, their respective wives, Mary, Jane, and Janet, and their respective children, John and Jane, Mary and Susan, and Matthew and Jane.

Each of these medical patients is a unique human being. They cannot be medically treated in aggregate, nor can a human being be subdivided. One cannot divide this family by name, into "John Does", "Jane Does", etc., nor can one divide it by generation into "the grandparents Doe", "the children Doe", and "the grandchildren Doe", and still have each subdivision constitute a human being. One cannot further subdivide "Michael Doe" into constituent parts, each of which is a human being.

One does not prescribe medication for the three John Does in aggregate, nor can one prescribe medication for Michael Doe's head but not the rest of him. The fact that Jane Doe the grandparent has a pacemaker, and would therefore be imperiled by an MRI procedure, does not prevent potentially life-saving MRI procedures from being performed on her daughter-in-law Jane Doe or either of her two granddaughters named Jane Doe.

One cannot define a subset of patients as "Patients with First Name Jane, Second Name Doe, Birth Month April, Gender Female, and Born Children Yes", and treat this subset of patients as a single patient under law or medical practice. If grandmother Jane Doe and her daughter-in-law Jane

Doe were both born in April, then both HIPAA violations and medical malpractice would likely result from such treatment as a single patient.

This difference goes to the core structure of each of the inventions, that of the Rotter patent and that of Applicant. The Rotter patent expressly applies to "entities" (i.e., things with a separate and distinct identity). The Rotter patent is structured to associate "fuzzy" data (i.e., data which may be incomplete or in error) to a specific, real entity, a single human being. The Rotter patent is specifically limited to application to an "entity" (i.e., a thing with a separate and distinct existence) and determines the "likelihood" that a database record is associated with that entity. No alternative teaching is present in the Rotter Specification.

In contrast, Applicant's invention is structured to provide definition to an amorphous collection of information (i.e., the trade secrets of an organization). Here it is the things to which the database records relate that are poorly defined, not the database records themselves, and Applicant's process is designed to provide that definition. The claims are specific: "... to identify and eliminate any redundancy among the sets of trade secret information to **define** a collection of descriptive information about potential trade secrets of the organization...." The Specification provides the basis for these claims, and teaches a different method and apparatus than Rotter.

Since Applicant's invention defines the underlying referents, it does not deal in "likelihood" or probability, and it does not consider weighting of data entries within the database records being compared. The database record drives the definition of the underlying referent. In the Rotter patent, in contrast, the separate and distinct existence of the underlying entity drives the processing of the database record.

This is a core difference between the two inventions. The invention of the Rotter patent

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does not define the underlying referents, they are entities -- separate and distinct -- already, as noted in the Specification. In contrast, the Applicant's invention, as noted in the Specification, defines the underlying referents as a significant part of its utility, providing structure to an amorphous collection of information.

Applicant does not deny the applicability of the Rotter patent to database scenarios where the underlying referents are entities; that is, where they are already well-defined, separate and distinct. Persons, automobiles, real estate properties, even patents, which are separate and distinct and well-defined by letters patent, are suitable applications for the Rotter patent. Applicant's invention by contrast is uniquely applicable to database scenarios where the underlying referents are not well-defined or separate or distinct. Applicant's invention applies to database scenarios where the imposition of structure on the underlying referents provides utility, trade secrets being the exemplar application.

This distinction is not subtle. The invention of the Rotter patent is not useful in application to trade secrets, and cannot be used to define trade secrets or otherwise provide structure to the amorphous cloud of information that constitutes the trade secret information of an organization. The assignation of likelihoods to database records referring themselves to ill-defined referents would more muddy the roiled waters of trade secret definition than clarify them.

Applicant's invention, conversely, cannot be used to eliminate redundancy in database records referring to well-defined entities. In our extended family of patients example above, the Applicant's invention may only define six patients: John, Jane(t), Mary, Matthew, Michael, and Susan; Jane and Janet may be regarded as similar enough not to require another subgroup. Reliance on the Applicant's invention in the exemplar of the Rotter patent would result in medical disaster.

Thus, the Rotter patent does not provide the utility provided by the Applicant's invention, nor does the Applicant's invention provide the utility provided by the Rotter invention. They each perform a different method on a different type of referent for a different purpose and provide different utility thereby. The Rotter patent does not teach the method or apparatus of the Applicant's application, in conjunction with Katz or otherwise.
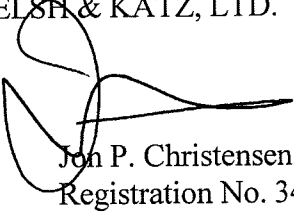
With regard to claims 2-26 and 28-52, rejected by examiner under Katz in view of Rotter in further view of Jacobsen, it is clear from Examiner's argument that if dependent claims 1 and 27 are not obvious under Katz in view of Rotter, as Applicant argues above, then independent claims 2-26 and 28-52 are not obvious under Katz in view of Rotter in further view of Jacobsen. In particular, Jacobsen does not provide any teaching on or relevant to the elimination of redundancy in a database, and Examiner makes no claim in his argument that it does.

For the foregoing reasons, allowance of claims 1-52, as now presented, is believed to be in order. It is respectfully requested that this Board reverse the decision of the Examiner in all respects.

Respectfully submitted,

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